

Exercise Solutions for Math 20

The 2-Dimensional Coordinate System

Nile Jocson <novoseiversia@gmail.com>

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Contents

1		3
1.1	Given $A(4, 2)$, $B(6, -4)$ and $C(2, -7)$, find the distance between C and the midpoint M of \overline{AB}	3

1

1.1 Given $A(4, 2)$, $B(6, -4)$ and $C(2, -7)$, find the distance between C and the midpoint M of \overline{AB} .

$\Rightarrow M = (\frac{4+6}{2}, \frac{2-4}{2})$ $\Rightarrow M = (\frac{10}{2}, \frac{-2}{2})$ $\Rightarrow M = (5, -1)$	Use the midpoint formula.
$\Rightarrow d_{CM} = \sqrt{(5-2)^2 + (-7+1)^2}$ $\Rightarrow d_{CM} = \sqrt{(3)^2 + (-6)^2}$ $\Rightarrow d_{CM} = \sqrt{9+36}$ $\Rightarrow d_{CM} = \sqrt{45}$ $\Rightarrow d_{CM} = \sqrt{9}\sqrt{5}$	Use the distance formula.
$\Rightarrow d_{CM} = 3\sqrt{5}$	Final answer. ■